

Intel Developer FORUM

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FORUM



Enabling Real-Time Business Anytime, Anywhere

Pat Gelsinger

Senior Vice President
General Manager
Digital Enterprise Group

Digital Enterprise

Seamless
Collaboration



Information
Assistance



Grow Business
Lower Risk
Decrease Costs

Embedded IT



Pervasive
Connectivity



Embedded IT



Automated Provisioning

Embedded Health

Self Managing & Healing

Robust & Secure Virtualization

Lower TCO

Embedded IT Capabilities Into Every Platform

Pervasive Connectivity



Seamless Roaming
Wired, Wi-Fi, WiMAX, 3G, VoIP, ...

Mobile & Context Aware

Cross Platform Communications

Scalable Modular Server
& Communication Platforms

Stay Connected – Anytime, Anywhere

Seamless Collaboration



Secure Data, Voice & Video
Communication

Integrated Experience

Synchronous & Asynchronous

Cross Locations & Company

End-to-End Converged Communications Experience

Information Assistance



Find & Analyze Information

Autonomic Data Sources

Instant Business Intelligence

“Scale Right” Infrastructure

Data as a Service

Deliver the Information Required to Manage & Grow

Digital Enterprise

Seamless
Collaboration



Information
Assistance



Enabling Real-Time Business Anytime, Anywhere

Embedded IT



Pervasive
Connectivity



Enabling Real-Time Business

Enterprise

Internet

Data Centers



Ecosystem

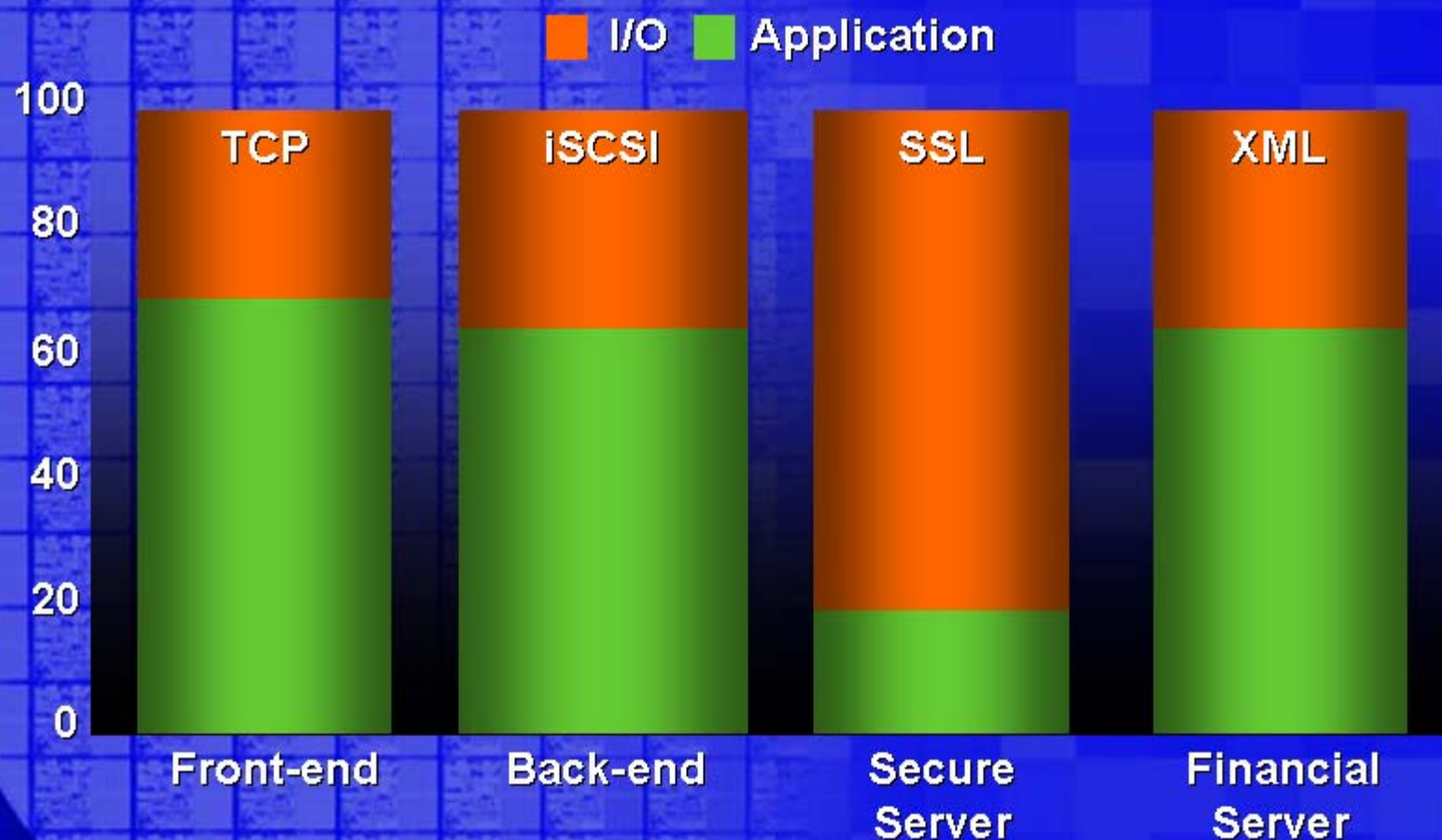
Industry Standards

Intel Enterprise Platforms

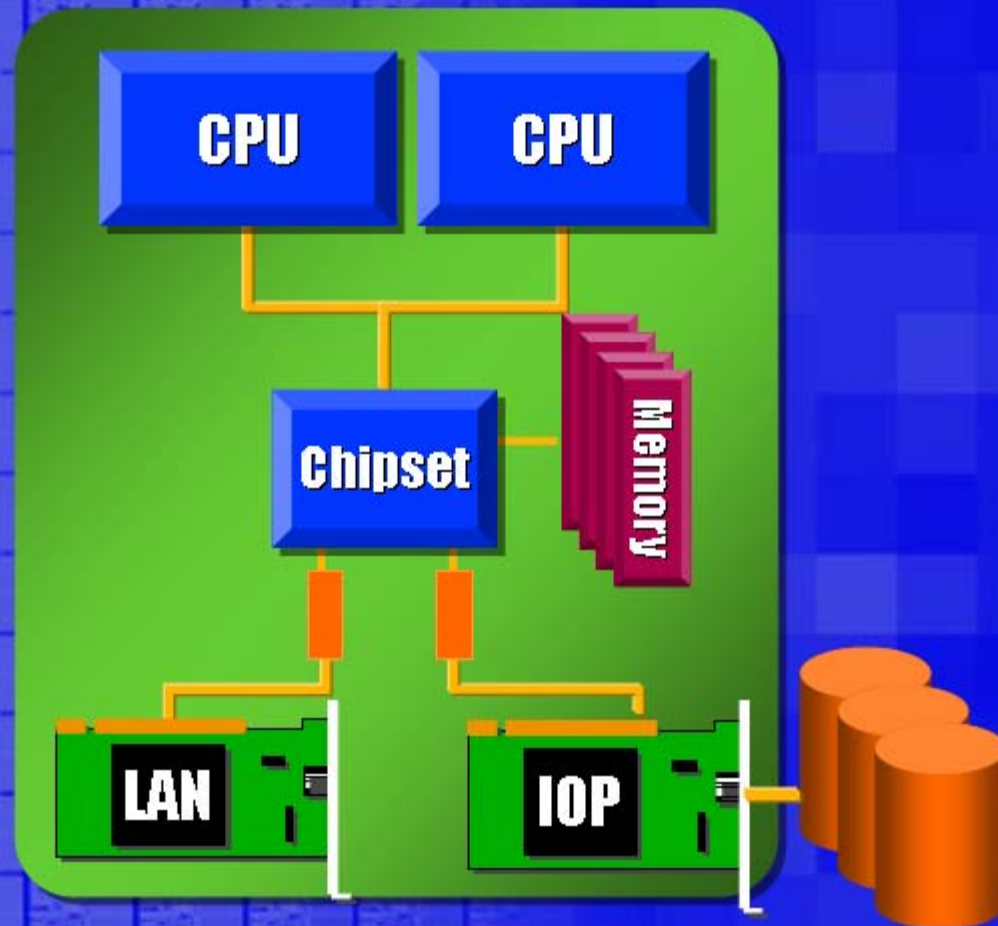
Intel Platform Technologies

Introducing Intel® I/O Acceleration Technology

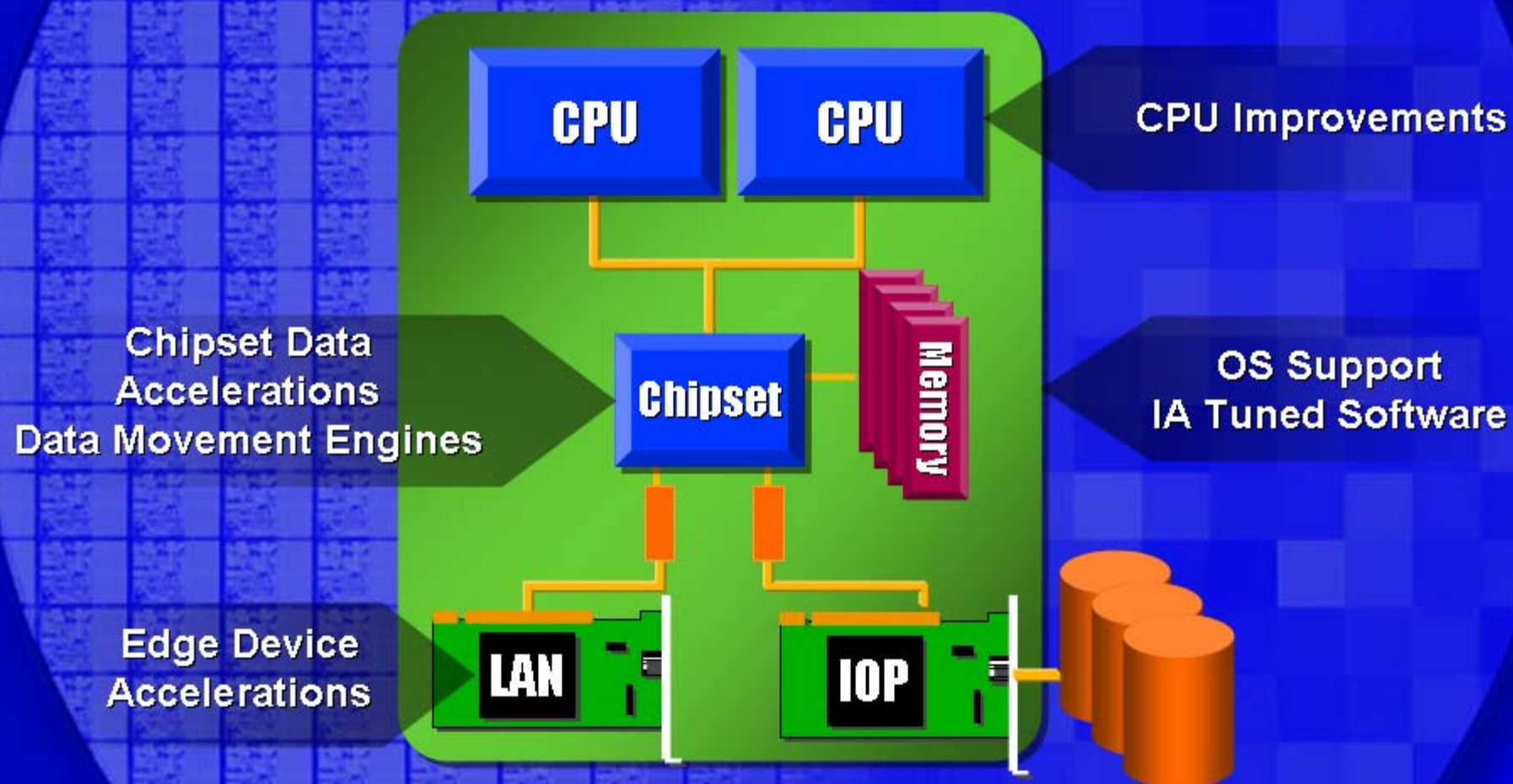
Example I/O Overhead



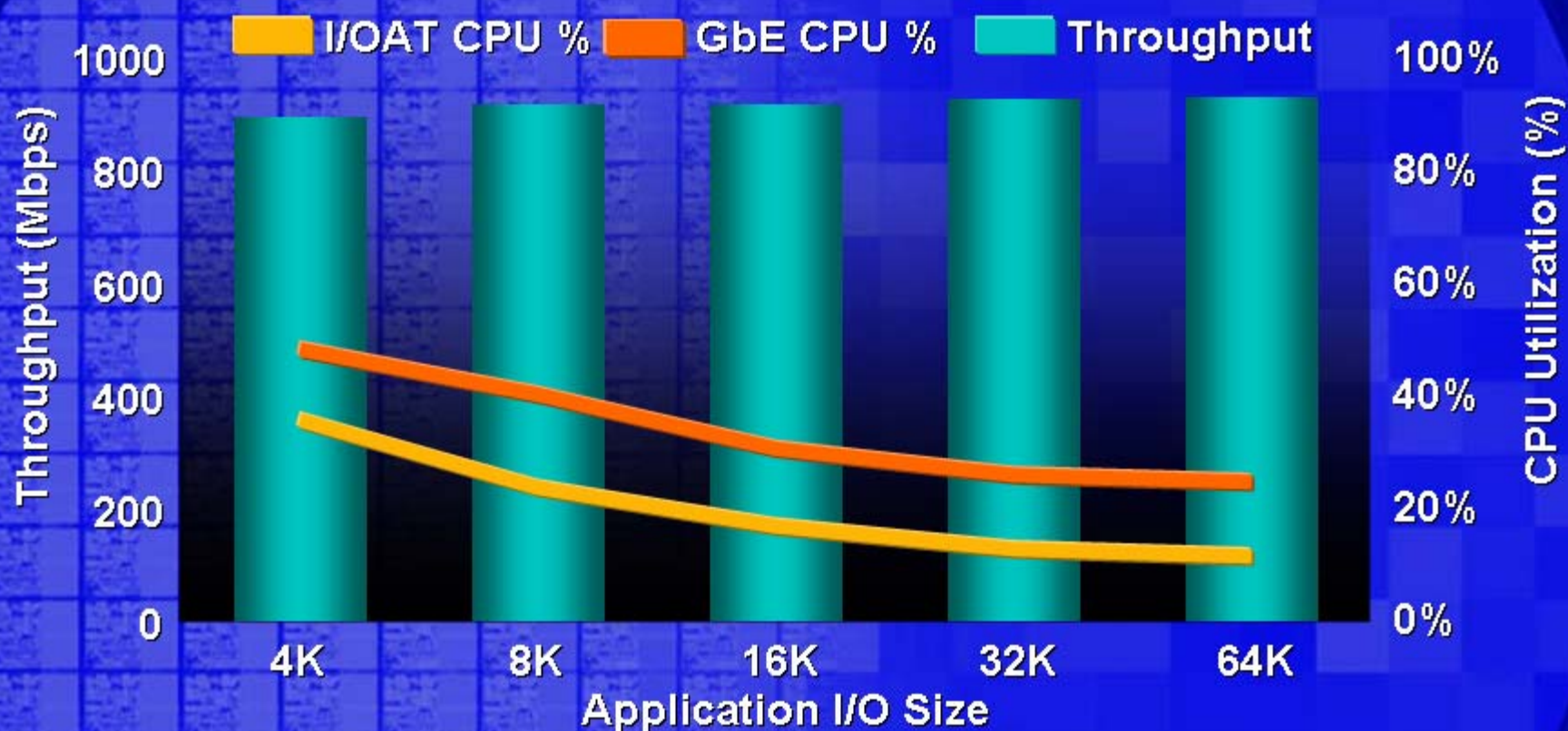
Introducing Intel® I/O Acceleration Technology



Introducing Intel® I/O Acceleration Technology



Introducing Intel® I/O Acceleration Technology



Up to 50% Reduction in CPU Utilization



Windows Server 2003 - Ntttcp Test - 6 streams - 3.2 HT Disabled; Source: Intel

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Intel® Virtualization Technology

Intel® Virtualization Technology

Intel® Active Management Technology



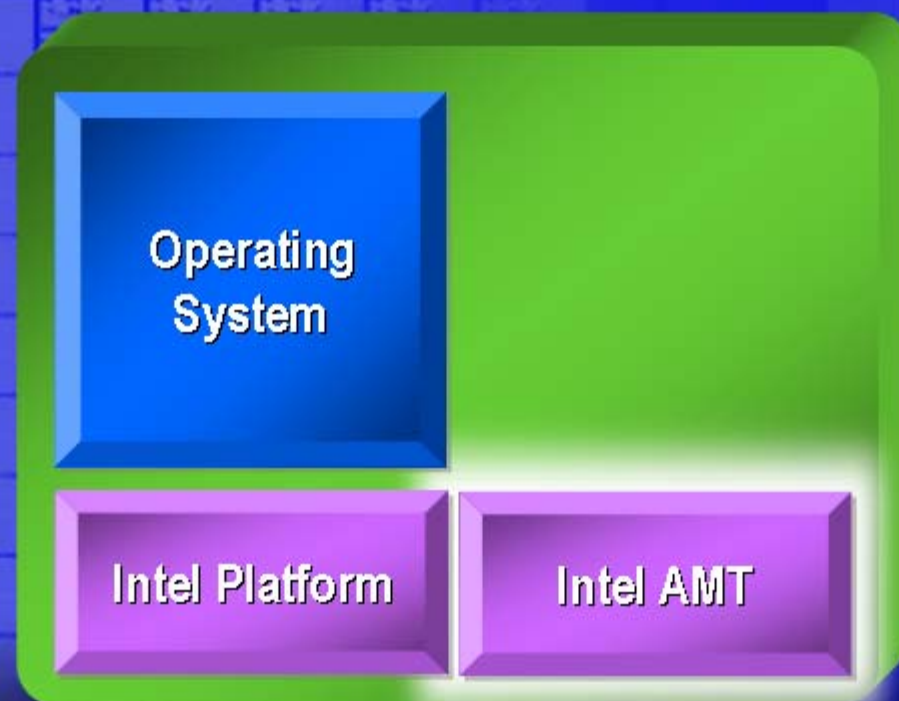
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Manageability and Virtualization



Today

Manageability and Virtualization



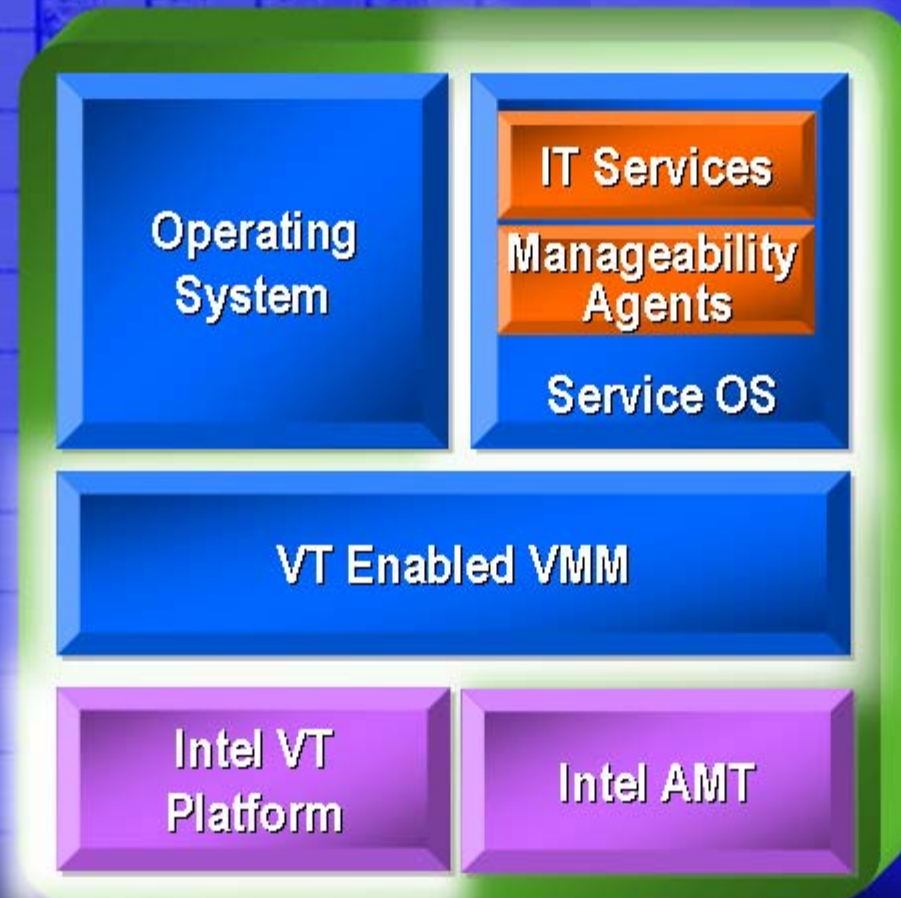
Discover

Heal

Protect

Intel® Active Management Technology

Manageability and Virtualization

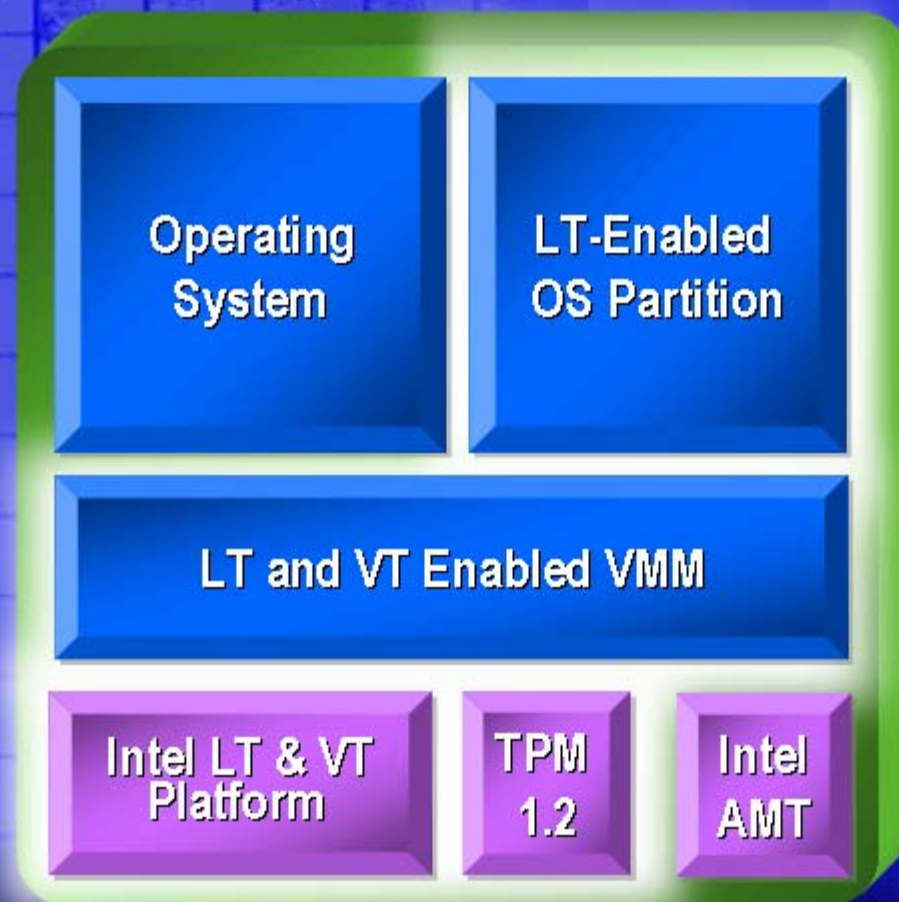


Manageability

*Enhanced
Security*

Intel® Virtualization Technology

Manageability, Virtualization & Secure



*Safer
Computing*

Manageability

*Enhanced
Stability*

LaGrande Technology

Ecosystem

Industry Standards

Intel Enterprise Platforms

Intel Platform Technologies

Enterprise Client Platforms

2005 Lyndon

Intel® Pentium® 4 Processor

945G C/S

HT, XD, EM64T, EIST, IAMT, VT



Outstanding Desktop Responsiveness & Performance

Corporate Stable Image Platforms

Enhanced Security & Manageability



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Enterprise Client Platforms

2005 Lyndon

Intel® Pentium® 4 Processor

945G C/S

HT, XD, EM64T, EIST, IAMT, VT



2006 Averill

Intel Pentium 4 Processor & DC

Broadwater

2005+ IAMT2, LT

Outstanding Desktop Responsiveness & Performance

Corporate Stable Image Platforms

Enhanced Security & Manageability



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64-Bit Xeon Processor Platforms

2005 Irwindale

64-bit Intel® Xeon™ Processor 2M
Intel® E7520 & Intel E7525
HT, EM64T, DBS

2 Socket



Broadest Range of Optimized Applications
Innovative Front-end Server Platform
Outstanding 2 Socket Performance



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64-Bit Xeon Processor Platforms

2005 Irwindale

64-bit Intel® Xeon™ Processor 2M
Intel® E7520 & Intel E7525
HT, EM64T, DBS

2 Socket



2006 Bensley, Glidewell

Dempsey
Blackford & Greencreek
2005+ VT, IAMT, I/OAT

Broadest Range of Optimized Applications

Innovative Front-end Server Platform

Outstanding 2 Socket Performance



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64-Bit Xeon Processor Platforms

2005 - 2006 Truland

64-bit Intel® Xeon™ MP / Paxville, Tulsa
Intel® E8500
HT, EM64T, DBS

4 Socket



Broadest Range of Optimized Applications

Innovative Mid-tier Server Platform

Outstanding Performance & Advanced RAS



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64-Bit Xeon Processor Platforms

2005 - 2006 Truland

64-bit Intel® Xeon™ MP / Paxville, Tulsa
Intel® E8500
HT, EM64T, DBS

4 Socket



2007 Reidland

Whitefield
Future Chipset

Broadest Range of Optimized Applications

Innovative Mid-tier Server Platform

Outstanding Performance & Advanced RAS



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Itanium® Processor Platforms

2005 - 2006

Millington / DP Montvale

Intel® 8870, Enabled

Dual Core, MT, Foxton, Pellston, VT

2 Socket



Premier Performance, Reliability and Scalability

Cost Effective vs. RISC

Choice of OS, SW and HW Vendors



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Itanium® Processor Platforms

2005 - 2006

Millington / DP Montvale

Intel® 8870, Enabled

Dual Core, MT, Foxton, Pellston, VT

2 Socket



Future Platform

Dimona

Future Chipset

Premier Performance, Reliability and Scalability

Cost Effective vs. RISC

Choice of OS, SW and HW Vendors



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Itanium® Processor Platforms

2005 - 2006

Montecito / Montvale
Intel® 8870 / Enabled
MT, Foxton, Pellston, VT

≥ 4 Socket



Premier Performance, Reliability and Scalability

Cost Effective vs. RISC

Choice of OS, SW and HW Vendors



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Itanium® Processor Platforms

2005 - 2006

Montecito / Montvale
Intel® 8870 / Enabled
MT, Foxton, Pellston, VT

≥ 4 Socket



Future – Richford

Tukwila ('07), Poulson
Future Chipset

Premier Performance, Reliability and Scalability

Cost Effective vs. RISC

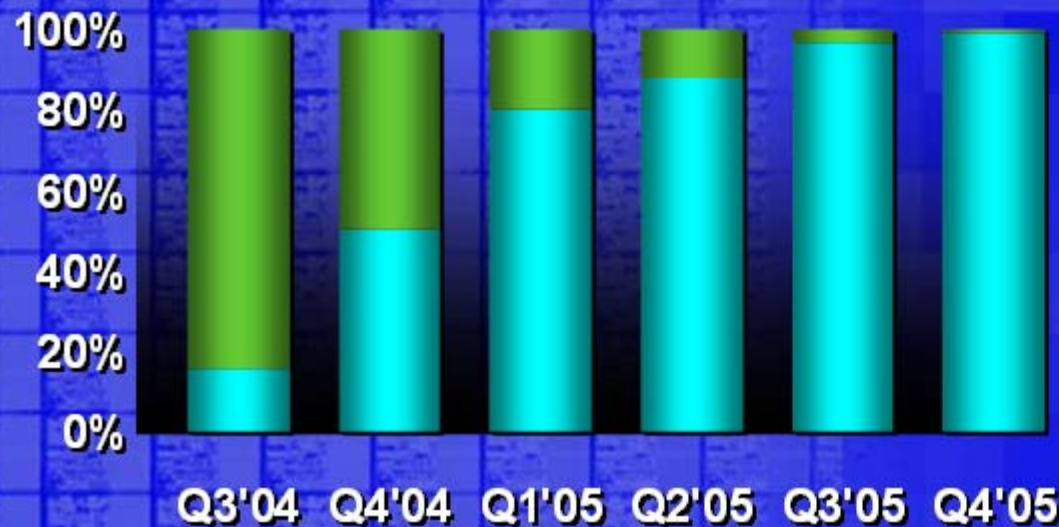
Choice of OS, SW and HW Vendors



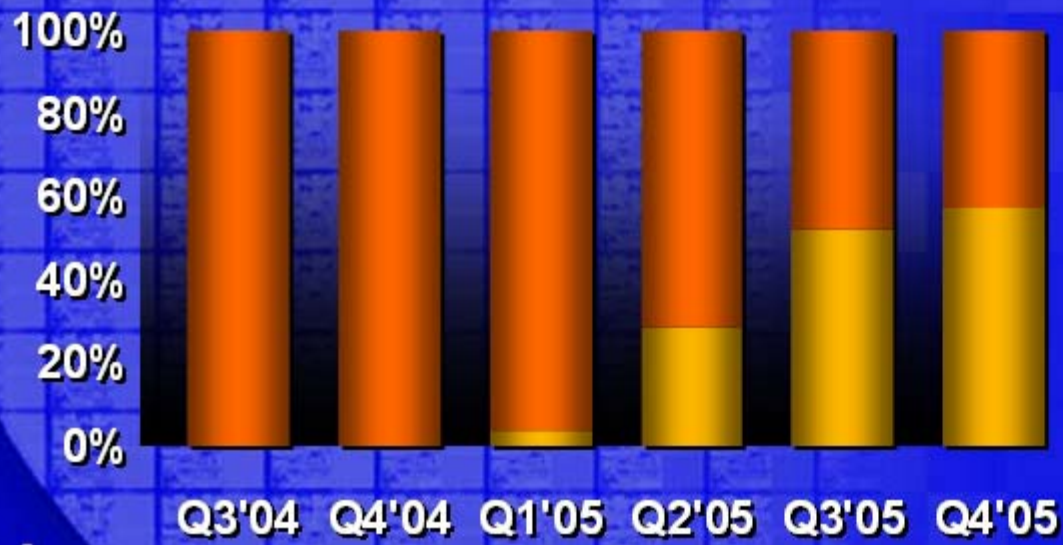
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Transition to 64-Bit Architectures



Server



Corporate Client

Intel 64-Bit Platform Showcase



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40th Anniversary of Moore's Law

Desktop Proc. 0.8 μ 0.6 μ 0.35 μ 0.25 μ 0.18 μ 0.13 μ 90nm 65nm

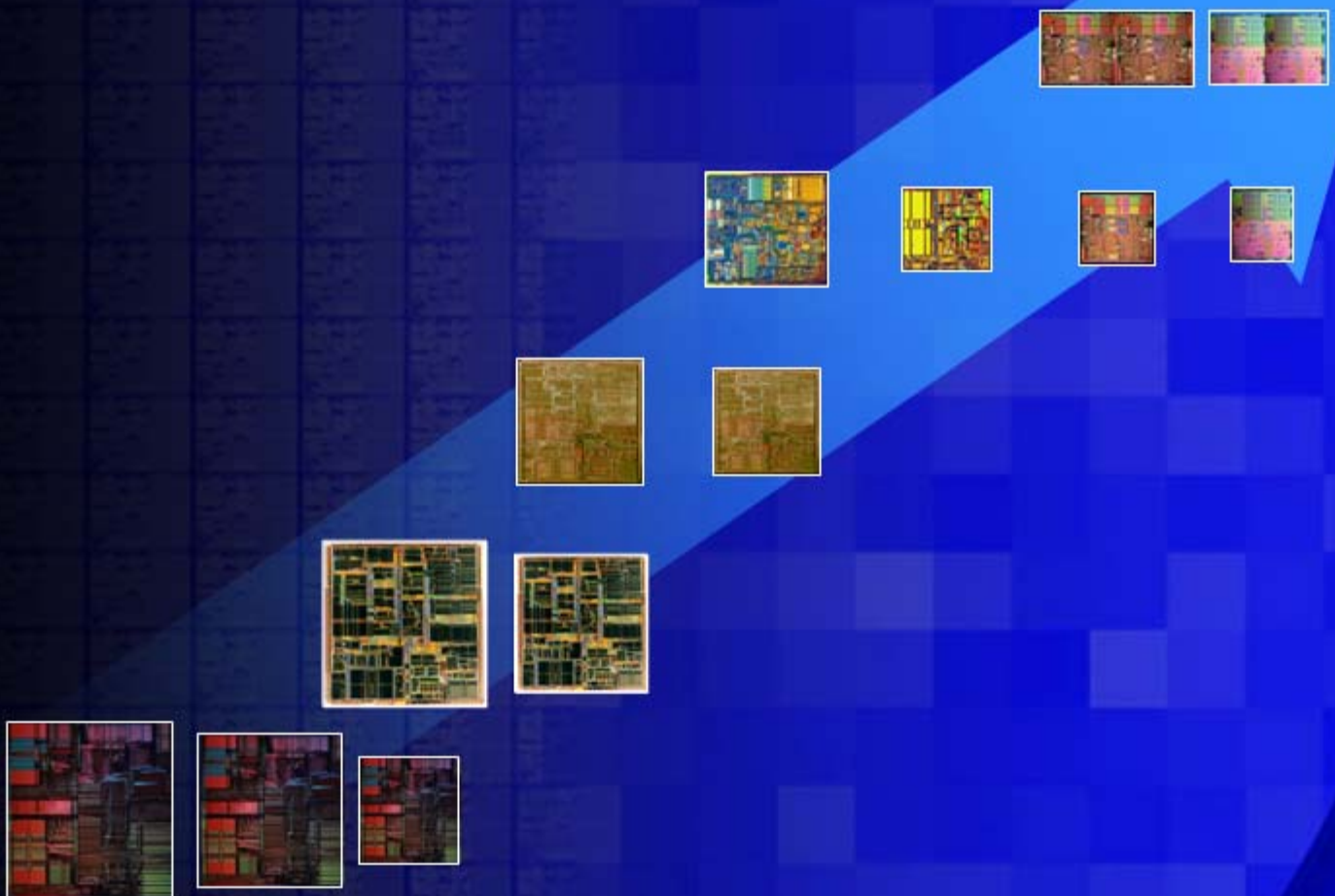
Next
Generation

Pentium 4
Processor

Pentium III
Processor

Pentium II
Processor

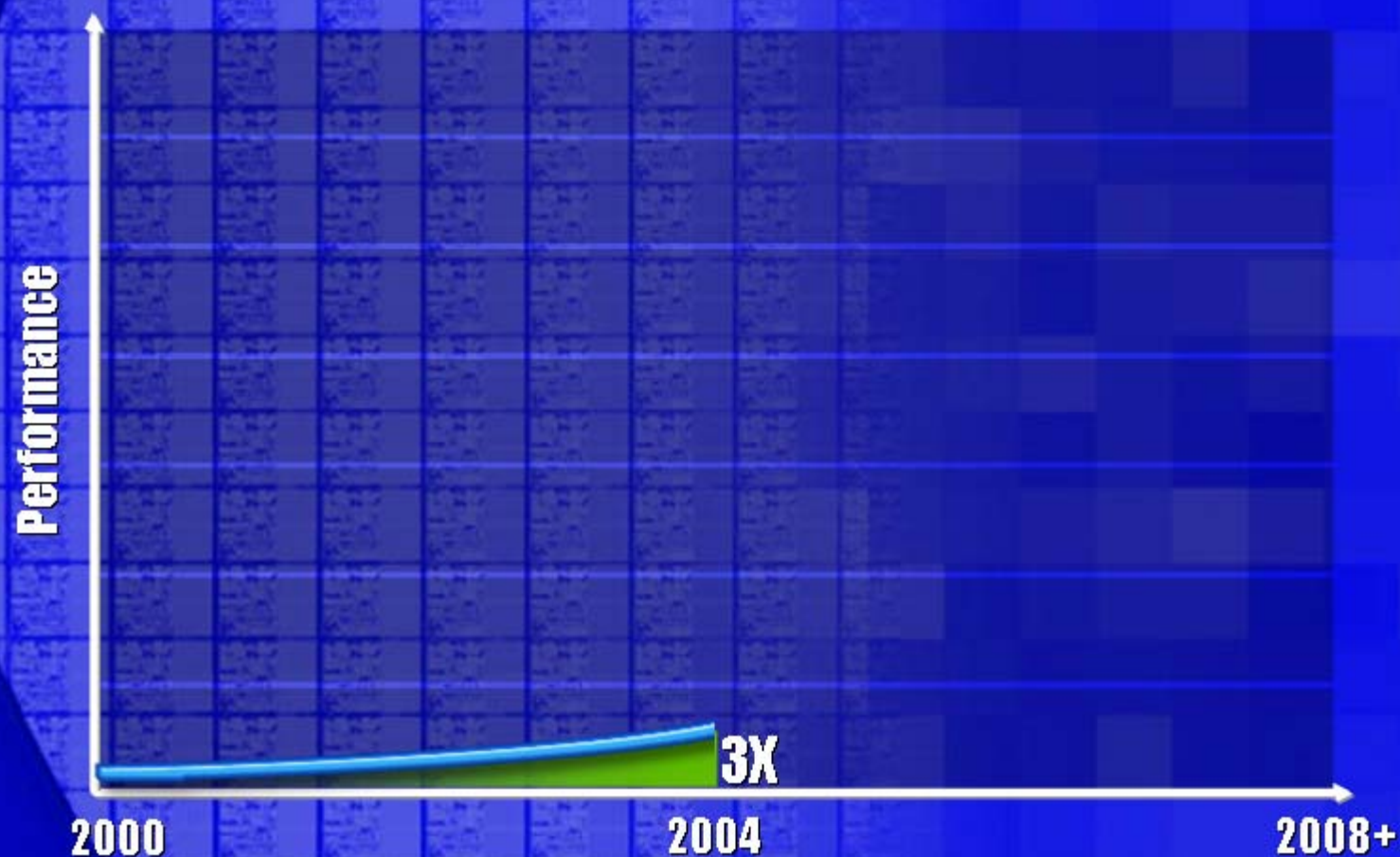
Pentium®
Processor



Transistor Density Doubles Every 18 Months

Performance Through Parallelism

Normalized Performance vs. Initial Intel® Pentium® 4 Processor



Performance Through Parallelism

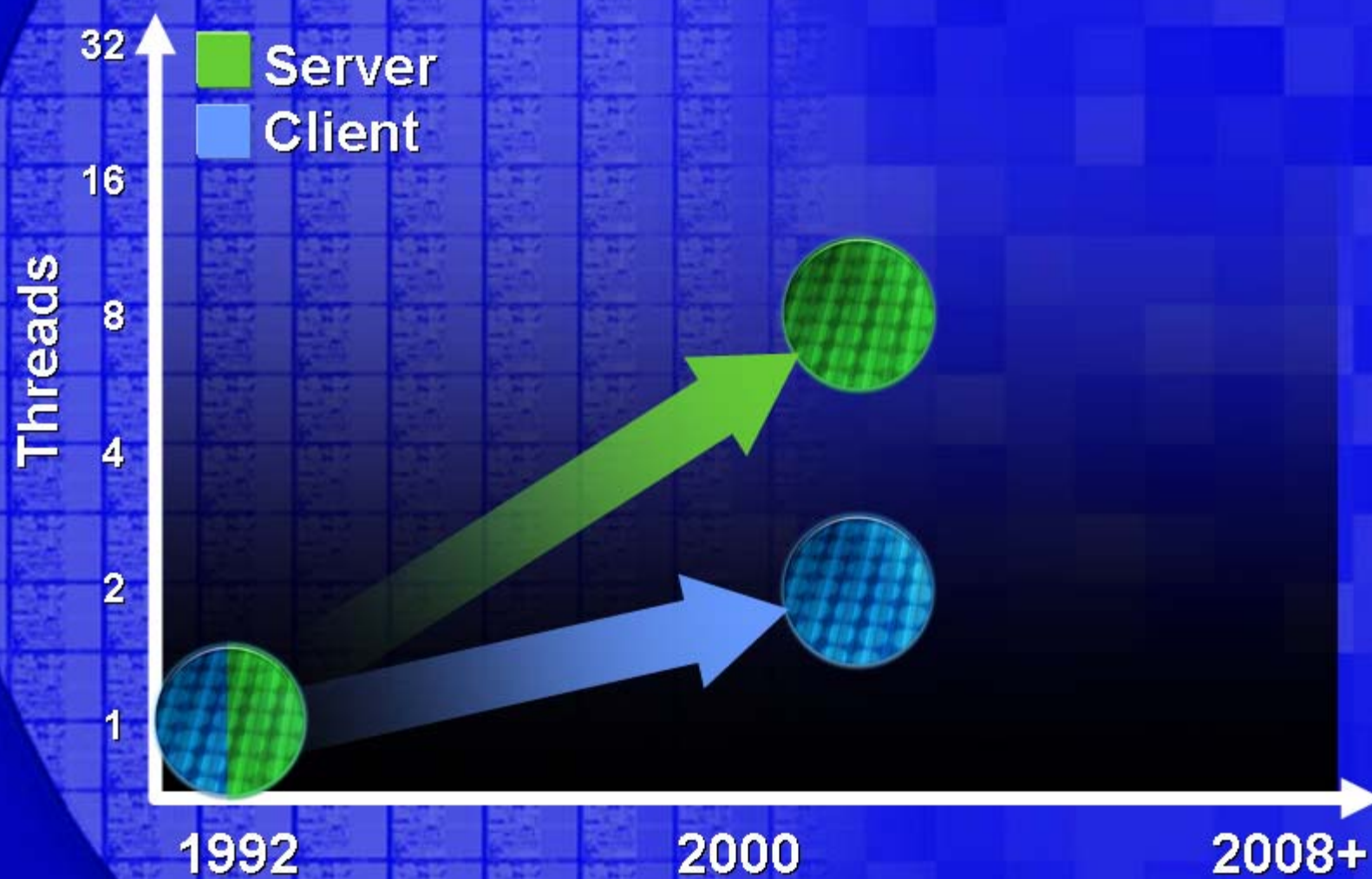
Normalized Performance vs. Initial Intel® Pentium® 4 Processor



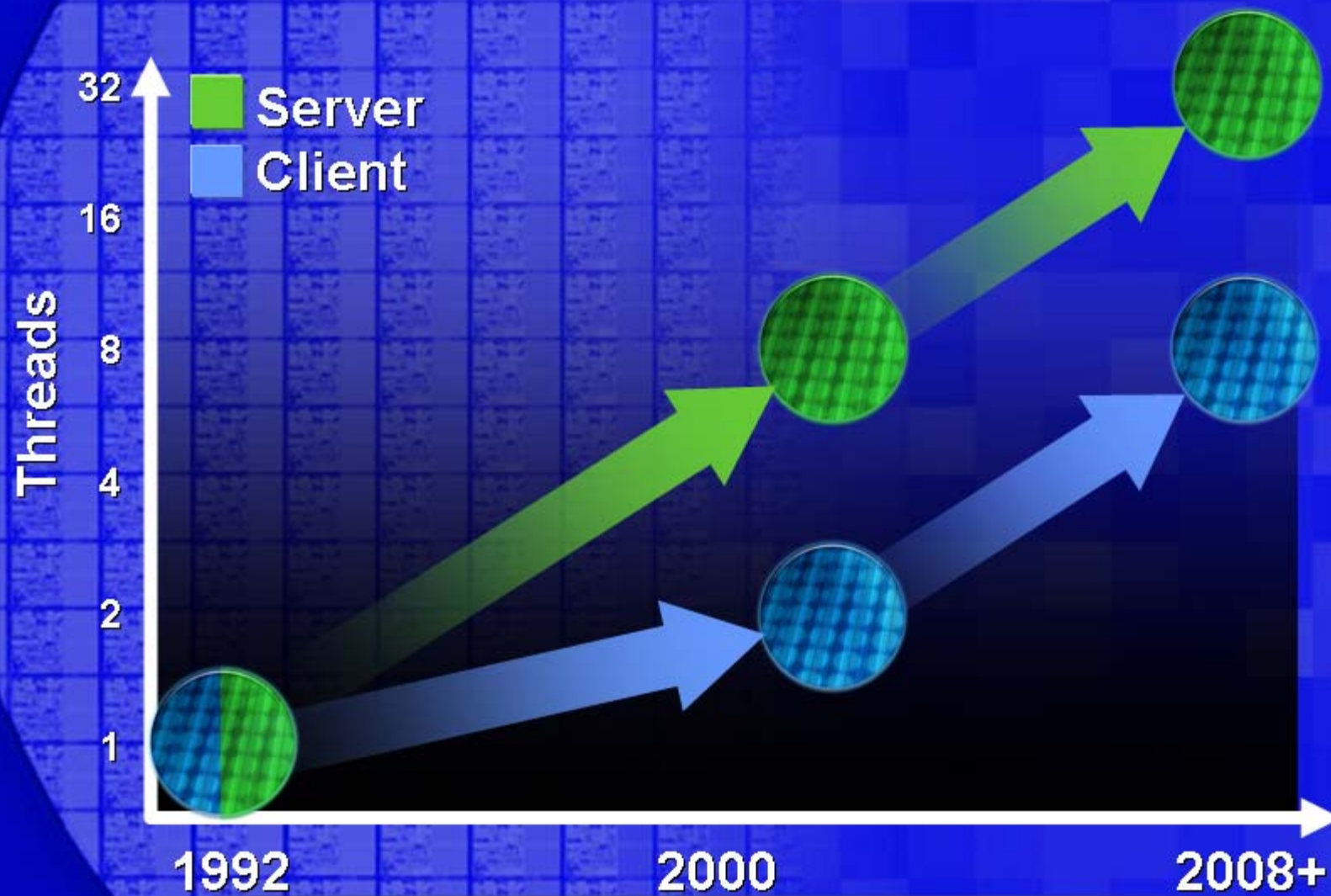
Increasing Degrees of Parallelism



Increasing Degrees of Parallelism



Increasing Degrees of Parallelism



Intel Dual Core Processors On Stage Today!

	90nm	65nm
Itanium® 2 Processor		
Xeon® Processor		
Desktop		
Mobility		

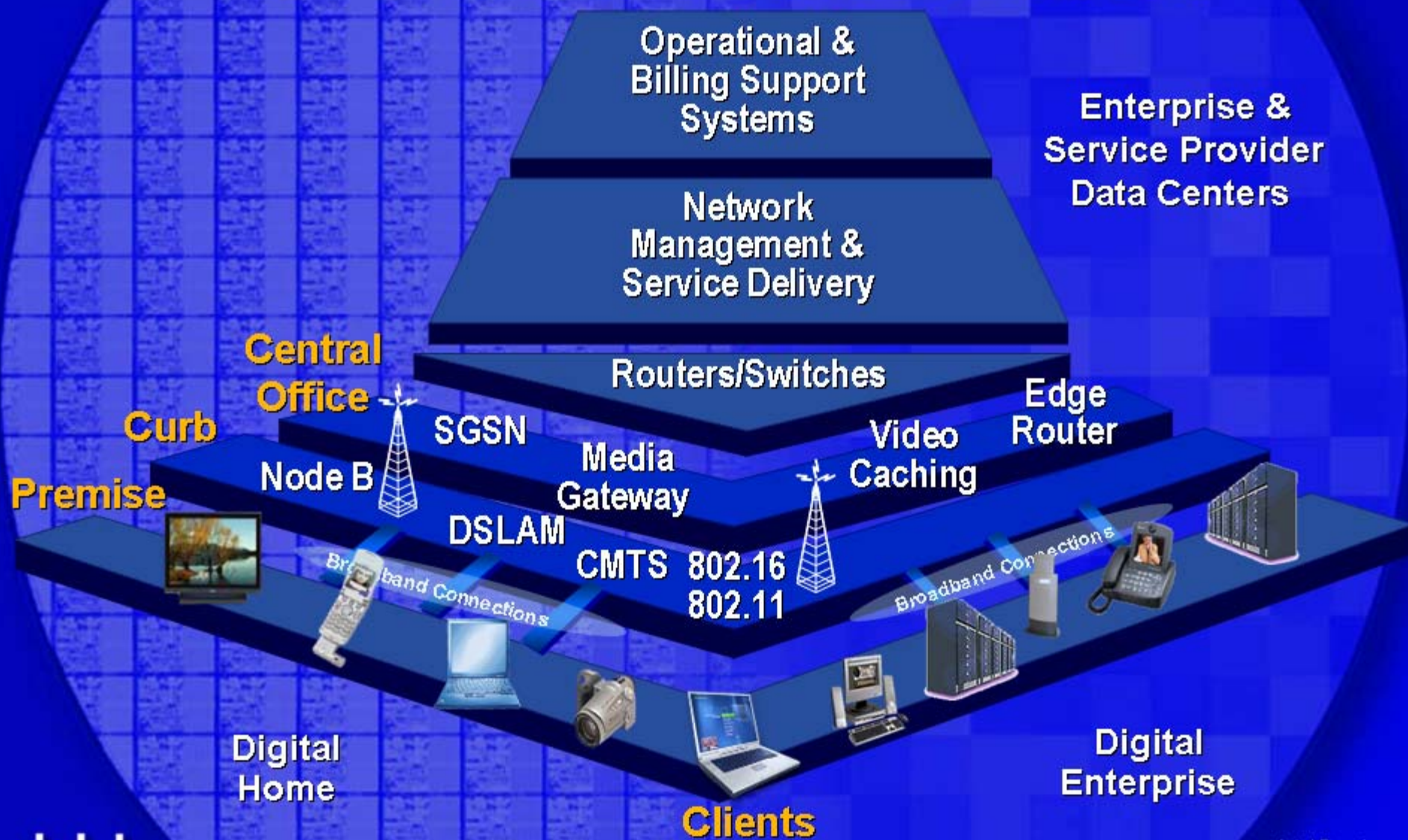
Ecosystem

Industry Standards

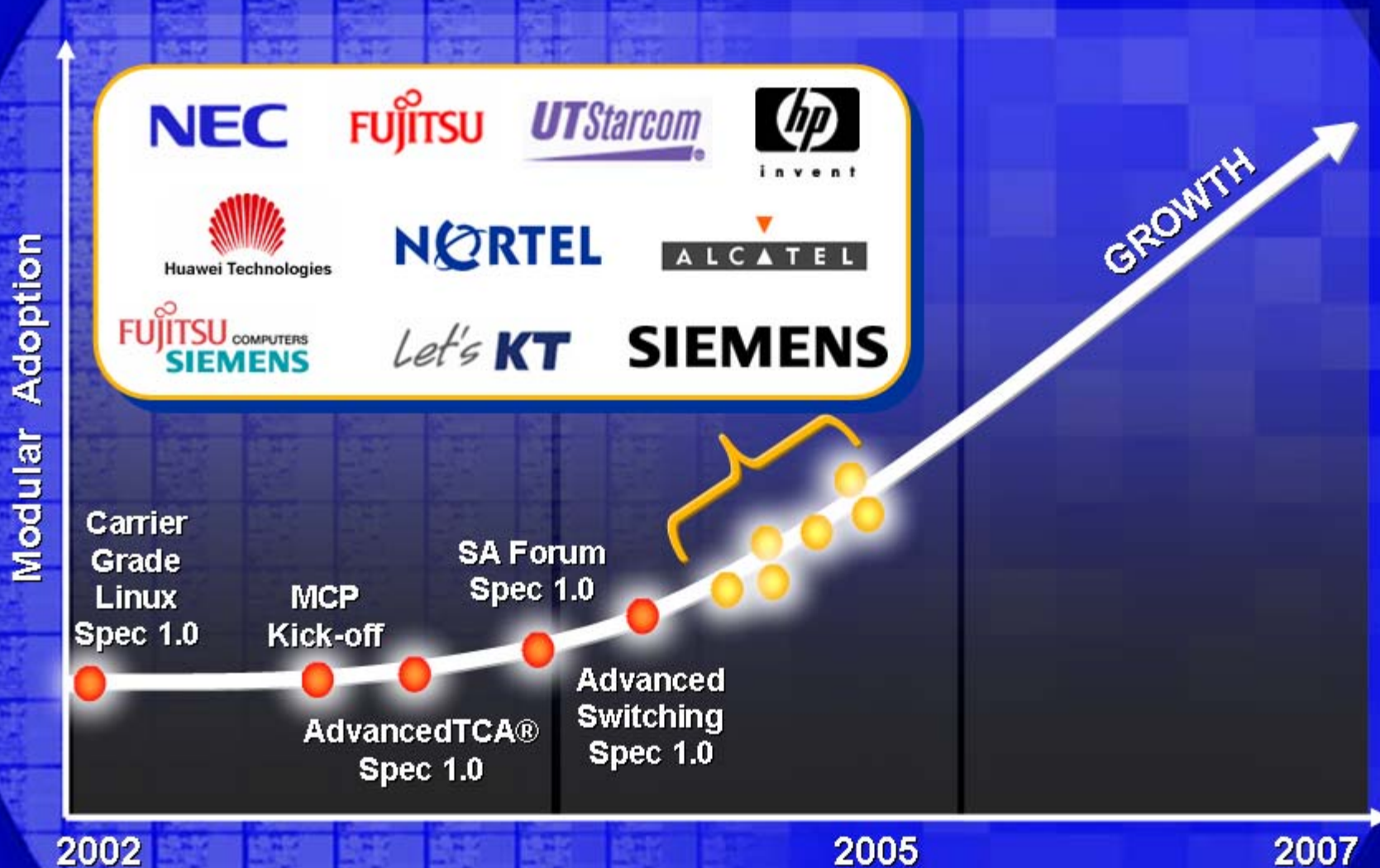
Intel Enterprise Platforms

Intel Platform Technologies

The Communications Network

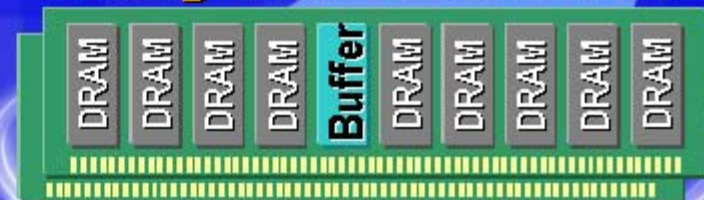


AdvancedTCA® Platform Ramp



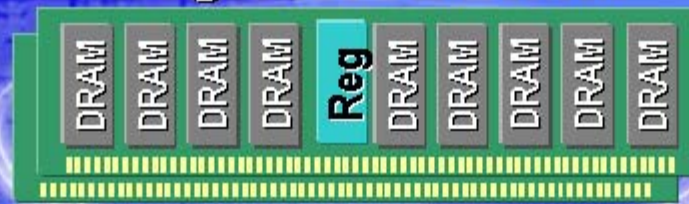
Industry Standards – FB DIMM

Fully Buffered DIMM



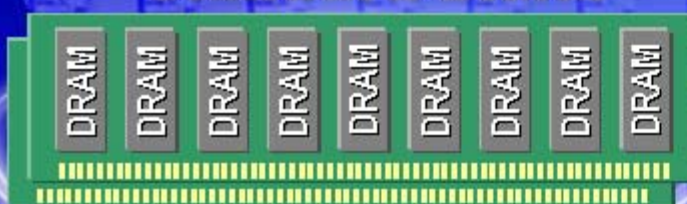
2006+

Registered DIMM



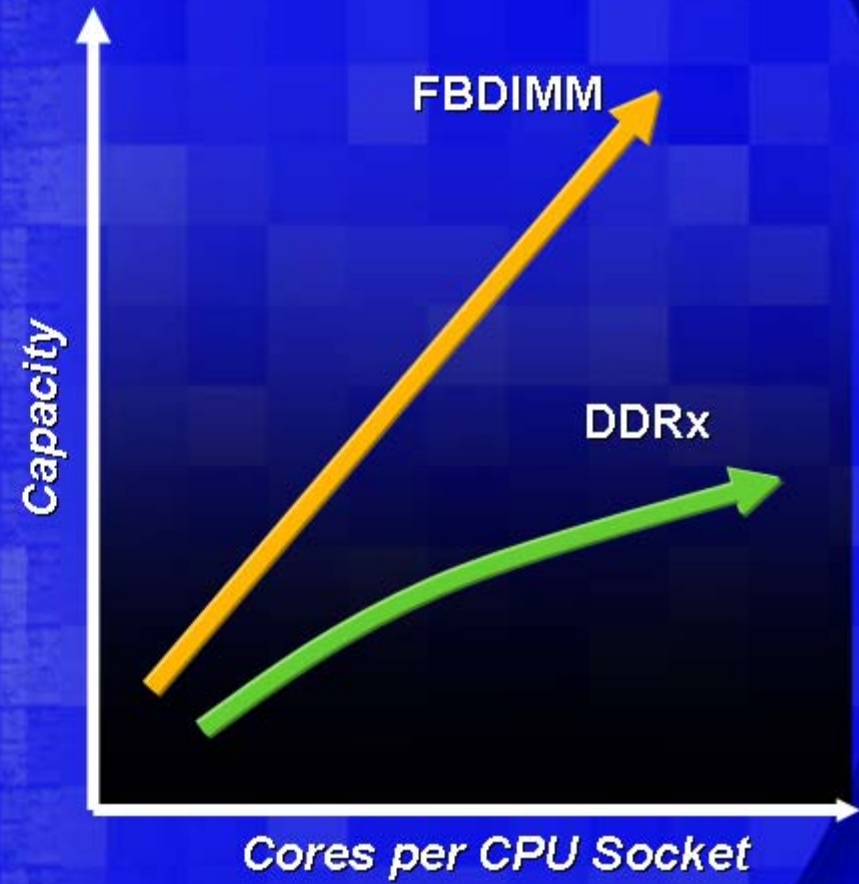
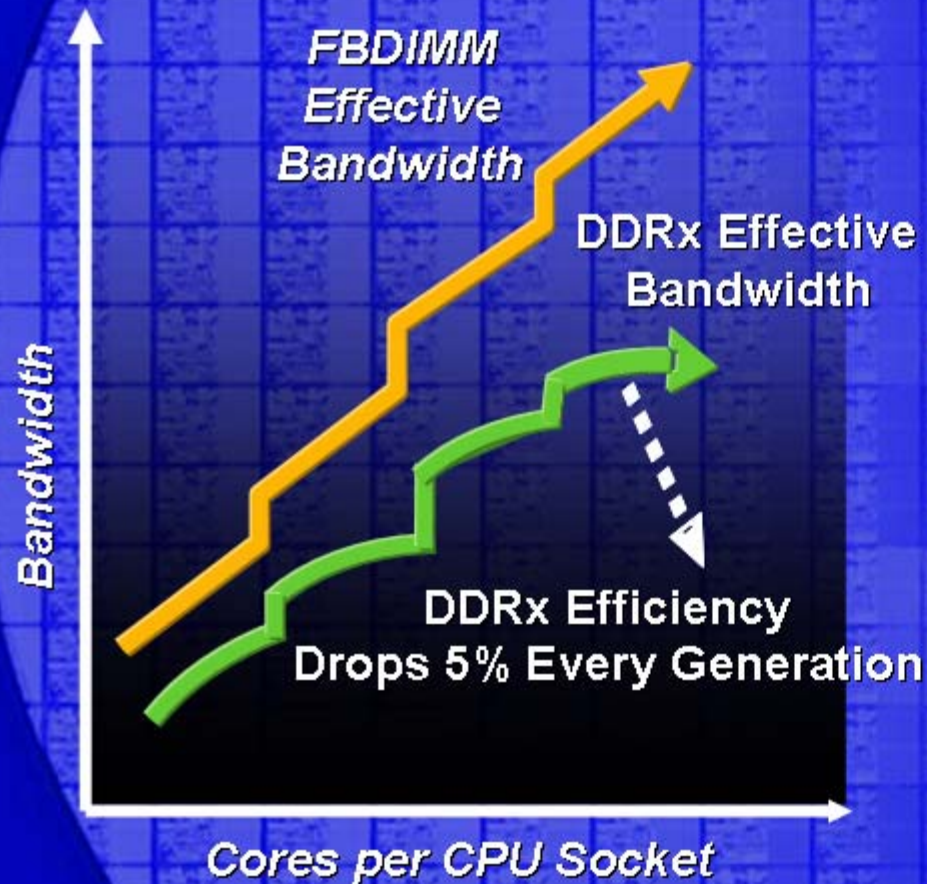
1995+

Standard DIMM



Pre-1995

FBDIMM Provides Higher Sustained Throughput



Ecosystem

Industry Standards

Intel Enterprise Platforms

Intel Platform Technologies

Ecosystem Enabling Programs

Software Vendor Alliances



Intel Capital



Software Tools



Developer Services



Intel® Solutions Services



Intel® Communications Alliance



Intel Software College

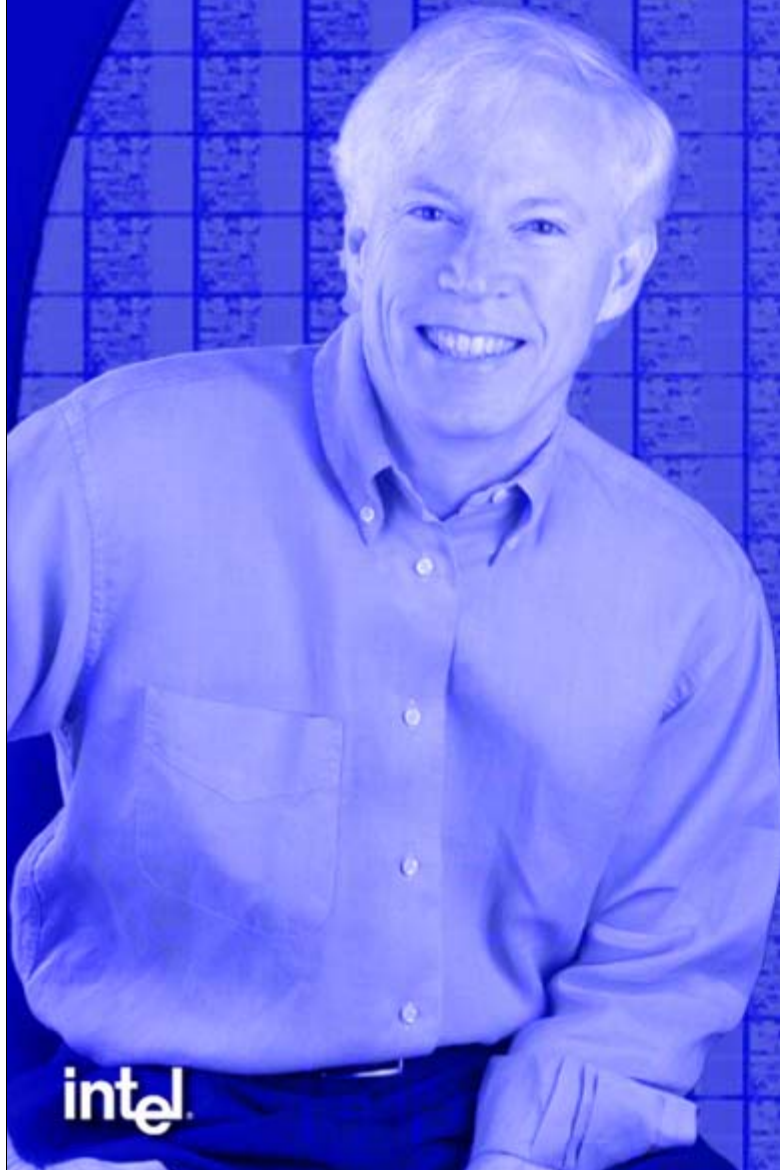


Early Access Program

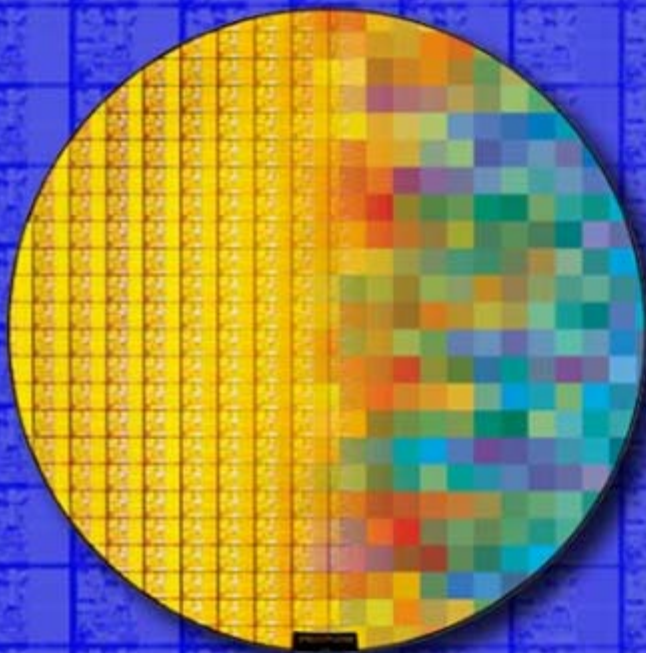


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Jim Allchin
Group Vice President
Platforms Group
Microsoft Corporation



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Microsoft
Windows Server 2003
for Itanium-based Systems



- #1 32-way system running SAP
- 5,210 users
- 1,572,000 steps per hour

Source: <http://www50.sap.com/benchmark/>

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Microsoft
Windows Server 2003
for Itanium-based Systems

NEC



- #1 32-way system running SAP
- 5,210 users
- 1,572,000 steps per hour

Microsoft
Windows Server 2003
x64 Editions



- #1 2-way system running SAP
- 597 users
- 180,000 steps per hour

Source: <http://www50.sap.com/benchmark/>

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Microsoft
Windows Server 2003
for Itanium-based Systems



- #1 32-way system running SAP
- 5,210 users
- 1,572,000 steps per hour

Microsoft
Windows Server 2003
x64 Editions



- #1 2-way system running SAP
- 597 users
- 180,000 steps per hour

Microsoft
Windows^{XP}
Professional x64 Edition



- x64 native apps > 35% faster
- 15-30% faster for some 32-bit apps

Source: <http://www50.sap.com/benchmark/>

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Call To Action

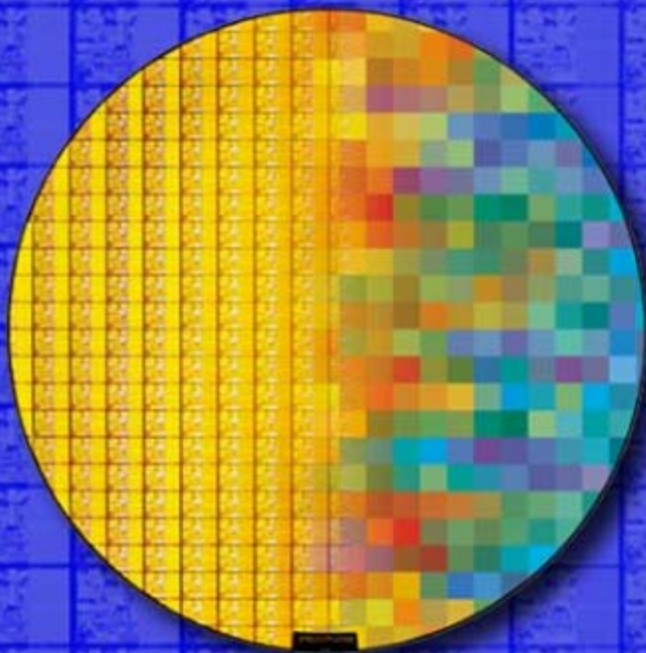
Innovate Around Real-Time Business

Build on Standards & Intel Platforms

Embrace Intel Virtualization Technology

Exploit Multi-Core & Many Threads

Move to 64-Bit: Datacenter to Desktop



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